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EXAMINER

AMARI, ALESSANDRO V

ART UNIT PAPER NUMBER

2872

DATE MAILED: 03/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/083,095

Applicant(s)

CARBERRY ET AL.

Examiner

Alessandro V. Amari

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Previous Claim Rejections - 35 USC § 102***

1. The previous art rejection of Prucnal et al US 5,060,305 has been withdrawn in light of new prior art rejection. The Examiner regrets any inconvenience caused to the Applicant.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 14 is rejected under 35 U.S.C. 102(b) as being anticipated by Wayman et al US Patent 5,710,846.

In regard to claim 14, Wayman et al discloses (see Figures 1, 3, 6) an apparatus for switching a plurality of optical paths, said apparatus comprising: a means for routing a primary optical signal (12) through an optical switch (30) as described in column 2, lines 33-47; a means for sensing (38, 40) a valid primary optical signal as described in column 3, lines 66-67 and column 4, lines 1-32; a means for routing a secondary optical signal (14) through said optical switch as described in column 2, lines 33-47; a means (50, 36) for determining when said primary optical signal has been valid for a selected period as described in column 3, lines 66-67 and column 4, lines 1-32; a means for deselecting (50, 36) said secondary optical signal and routing said primary optical signal through said optical switch.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wayman et al US Patent 5,710,846 in view of Laughlin US Patent 6,243,511.

In regard to claim 1, Wayman et al teaches (see Figures 1, 3) an apparatus for switching a plurality of optical paths (12, 14), each carrying an optical signal, said apparatus comprising: a first splitter (16) having an input being a primary optical signal; a second splitter (18) having an input being a secondary optical signal; a selection circuit (50) having a first input from said first splitter and a second input from said second splitter; an selection circuit having a first input from said first splitter and a second input from said second splitter; and that said switch responsive to said analog selection circuit and an optical switch (30) having a first switch input from said first splitter and a second switch input from said second splitter as described in column 2, lines 33-47.

However, in regard to claim 1, Wayman et al does not teach an analog selection circuit having a first input from said first splitter and a second input from said second splitter; and that said switch responsive to said analog selection circuit but instead teaches a digital selection circuit.

In regard to claim 1, Laughlin does teach (see Figures 1, 2) an analog selection circuit (62, 64) and that said switch responsive to said analog selection circuit as described in column 4, lines 21-65 and furthermore that the analog selection circuit is an art-recognized equivalent of an digital selection circuit.

Regarding claim 6, Laughlin teaches said analog selection circuit is responsive to an optical signal strength of said primary optical signal and is responsive to an optical signal strength of said secondary optical signal as described in column 4, lines 22-56.

Regarding claim 7, Laughlin teaches that said analog selection circuit includes a means for routing said secondary optical signal after said primary optical signal becomes invalid; a means for determining whether said primary optical signal has been valid for a selected period; and a means for deselecting said secondary optical signal and routing said primary optical signal through said optical switch as described in column 4, lines 22-65.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the analog selection circuit as described by Laughlin in the device of Wayman et al in order to provide for a lower cost approach for the selection circuit by using analog components.

6. Claims 2-5, 8 and 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wayman et al US Patent 5,710,846 in view of Laughlin US Patent 6,243,511 and further in view of Young US Patent 5,028,824.

Regarding claims 2-5, Wayman et al in view of Laughlin teaches the invention as set forth above but does not teach in regard to claim 2, that said analog selection circuit

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includes a timing circuit responsive to said primary optical signal; and a deselect circuit responsive to said timing circuit and in regard to claim 3, that said timing circuit outputs a timing signal to said deselect circuit after a selected period in which said valid primary optical signal is present, said deselect circuit causes said optical switch to route said primary optical signal to an output of said optical switch upon receiving said timing signal and in regard to claim 4, that said timing circuit includes a network including a resistor and a capacitor having a charging time defining a selected period before said primary optical signal is routed through said optical switch and in regard to claim 5, that said deselect circuit includes a network including a Schmitt trigger and a diode, said network causing said optical switch to route said primary optical signal upon actuation of said network by a timing signal from said timing circuit.

Regarding claim 2, Young does teach (see Figure 1) said analog selection circuit includes a timing circuit responsive to said primary optical signal; and a deselect circuit responsive to said timing circuit as described in column 1, lines 55-68 and column 2, lines 1-41, column 3, lines 1-68 and column 4, lines 1-21.

Regarding claim 3, Young teaches that said timing circuit outputs a timing signal to said deselect circuit after a selected period in which said valid primary optical signal is present, said deselect circuit causes said optical switch to route said primary optical signal to an output of said optical switch upon receiving said timing signal as described in column 1, lines 55-68 and column 2, lines 1-41, column 3, lines 1-68 and column 4, lines 1-21.

Regarding claim 4, Young teaches (see Figure 1) that said timing circuit includes a network including a resistor (22) and a capacitor (52) having a charging time defining a selected period before said primary optical signal is routed through said optical switch as described in column 3, lines 11-41.

Regarding claim 5, Young teaches (see Figure 1) that said deselect circuit includes a network including a Schmitt trigger and a diode, said network causing said optical switch to route said primary optical signal upon actuation of said network by a timing signal from said timing circuit as described in column 3, lines 11-68 and column 4, lines 1-26.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the timing and deselect circuits as taught by Young in the device of Wayman et al in view of Laughlin in order to provide for a low standby delay circuit which is effectively independent of power supply fluctuations as described in column 1, lines 5-12.

In regard to claim 8, Wayman et al teaches (see Figure 1, 3) an apparatus for switching a plurality of optical paths, said apparatus comprising a first splitter (16) having an input being a primary optical signal and having a pair of outputs including a first splitter main output (20) and a first splitter second output (24); a second splitter (18) having an input being a secondary optical signal and having a pair of outputs including a second splitter main output (22) and a second splitter second output (26); and an optical switch (30) having a first switch input from said first splitter main output and a second switch input from said second splitter main output, said switch responsive to a selection

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circuit (50, 36), which causes said optical switch to route said first splitter main output to an output of said optical switch upon receiving said timing signal.

However, in regard to claim 8, Wayman et al does not teach an analog selection circuit receiving inputs from said first splitter second output and said second splitter second output, a timing circuit responsive to said first splitter second output including a resistor and capacitor and a deselect circuit responsive to said timing circuit including a Schmitt trigger and a diode.

In regard to claim 8, Laughlin does teach an analog selection circuit (62, 64) and that said switch responsive to said analog selection circuit as described in column 4, lines 21-65 and furthermore that the analog selection circuit is an art-recognized equivalent of an digital selection circuit.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the analog selection circuit as described by Laughlin in the device of Wayman et al in order to provide for a lower cost approach for the selection circuit by using analog components.

However, in further regard to claim 8, Wayman et al in view of Laughlin does not further teach that said analog selection circuit including a timing circuit responsive to said first splitter second output, said timing circuit including a resistor and a capacitor having a charging time defining a selected period, and a deselect circuit responsive to said timing circuit, said timing circuit outputting a timing signal to said deselect circuit after said selected period in which a signal indicating that said first splitter second



output has a level greater than a selected value, said deselect circuit including a Schmitt trigger and a diode.

In regard to claim 8, Young does teach (see Figure 1) a timing circuit responsive to said first splitter second output, said timing circuit including a resistor (22) and a capacitor (52) having a charging time defining a selected period, and a deselect circuit responsive to said timing circuit, said timing circuit outputting a timing signal to said deselect circuit after said selected period in which a signal indicating that said first splitter second output has a level greater than a selected value, said deselect circuit including a Schmitt trigger and a diode as described in column 1, lines 55-68 and column 2, lines 1-41, column 3, lines 1-68 and column 4, lines 1-21 and as shown in Figure 1.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the timing and deselect circuits as taught by Young in the device of Wayman et al in view of Laughlin in order to provide for a low standby delay circuit which is effectively independent of power supply fluctuations as described in column 1, lines 5-12.

In regard to claim 9, Wayman et al teaches (see Figure 1, 3) an apparatus for switching a plurality of optical paths, said apparatus comprising a first splitter (16) having an input being a primary optical signal and having a pair of outputs including a first splitter main output (20) and a first splitter second output (24); a second splitter (18) having an input being a secondary optical signal and having a pair of outputs including a second splitter main output (22) and a second splitter second output (26); and an optical

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switch (30) having a first switch input from said first splitter main output and a second switch input from said second splitter main output, said switch responsive to a selection circuit (50, 36), which causes said optical switch to route said first splitter main output to an output of said optical switch upon receiving said timing signal.

However, in regard to claim 9, Wayman et al does not teach an analog selection circuit receiving inputs from said first splitter second output and said second splitter second output.

In regard to claim 9, Laughlin does teach an analog selection circuit (62, 64) and that said switch responsive to said analog selection circuit as described in column 4, lines 21-65 and furthermore that the analog selection circuit is an art-recognized equivalent of an digital selection circuit. In regard to claim 11, Laughlin does teach that said analog selection circuit is responsive to an optical signal strength of said primary optical signal and is responsive to an optical signal strength of said secondary optical signal as described in column 4, lines 21-65.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the analog selection circuit as described by Laughlin in the device of Wayman et al in order to provide for a lower cost approach for the selection circuit by using analog components.

However, in further regard to claim 9, Wayman et al in view of Laughlin does not teach said analog selection circuit including a timing circuit responsive to said primary optical signal, and a deselect circuit responsive to said timing signal, said timing circuit initiated by receiving a valid primary optical signal, said timing circuit outputting a timing

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signal to said deselect circuit after a selected period in which said valid primary optical signal is present. Further in regard to claim 10, Wayman et al in view of Laughlin does not teach that said timing circuit includes a network including a resistor and a capacitor, said network defining a period before said primary optical signal is routed through said optical switch or in regard to claim 12, that said timing circuit includes a network including a resistor and a capacitor having a charging time defining a selected period before said primary optical signal is routed through said optical switch or in regard to claim 13, that said deselect circuit includes a network including a Schmitt trigger and a diode, said network causing said optical switch to route said primary optical signal upon actuation of said network by a timing signal from said timing circuit.

In regard to claim 9, Young does teach (see Figure 1) said analog selection circuit including a timing circuit responsive to said primary optical signal, and a deselect circuit responsive to said timing signal, said timing circuit initiated by receiving a valid primary optical signal, said timing circuit outputting a timing signal to said deselect circuit after a selected period in which said valid primary optical signal is present as described in column 1, lines 55-68 and column 2, lines 1-41, column 3, lines 1-68 and column 4, lines 1-21.

In regard to claims 10 and 12, Young teaches (see Figure 1) that said timing circuit includes a network including a resistor (22) and a capacitor (52) having a charging time defining a selected period before said primary optical signal is routed through said optical switch as described in column 3, lines 11-41.

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In regard to claim 13, Young does teach (see Figure 1) that said deselect circuit includes a network including a Schmitt trigger and a diode, said network causing said optical switch to route said primary optical signal upon actuation of said network by a timing signal from said timing circuit as described in column 3, lines 11-68 and column 4, lines 1-26.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the timing and deselect circuits as taught by Young in the device of Wayman et al in view of Laughlin in order to provide for a low standby delay circuit which is effectively independent of power supply fluctuations as described in column 1, lines 5-12.

#### ***Response to Arguments***

7. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alessandro V. Amari whose telephone number is (571) 272-2306. The examiner can normally be reached on Monday-Friday 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ava *AM*  
11 February 2004

  
MARK A. ROBINSON  
PRIMARY EXAMINER